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DOCUMENT RESUME

ED 288 758 SO 018 364

AUTHOR Ellis, Diane C.
TITLE Trends in the Artist Occupations: 1970-1980.
INSTITUTION National Data Use and Access Labs., Inc., Arlington, Va.
SPONS AGENCY National Endowment for the Arts, Washington, DC. Research Div.
PUB DATE May 84
NOTE 37p.
PUB TYPE Information Analyses (070) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Artists; *Census Figures; Comparative Analysis; Data Analysis; *Economic Change; *Employment Patterns; Employment Statistics; Occupational Surveys; Research Reports; Statistical Analysis; Trend Analysis
IDENTIFIERS Census 1970; Census 1980

ABSTRACT

Data from both the 1970 and the 1980 Census are used to determine changes and trends in artist occupations and in the numbers of artists. The effects of changes in methods utilized to count artists in the 1980 Census are outlined, and estimated rates of growth by artist occupations are provided. The percentage of women artists, the ethnic distribution of artists, and the age composition of artists by occupational groups are highlighted. Data are included which illustrate trends in: (1) labor reserves; (2) the percentage of full-time workers; (3) median years of schooling; and (4) median earnings. Comparisons indicate that the number of full-time actors and directors and their levels of education and earnings increased. Musicians, composers, dancers, and architects reported exceptional gains in earnings, however, all except architects continue to have the lowest median income among artists. About one-half of all artists work full-time in their field. Appendices include: (1) data sources; (2) specific job titles; (3) a description of the use of growth estimates; and (4) supplemental data by artist occupations. (JHP)

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PREPARED BY

DUALabs

Data Use and Access Laboratories

1515 Wilson Boulevard • Suite 607 • Arlington, Virginia 22209

TRENDS IN THE ARTIST OCCUPATIONS: 1970–1980

Prepared for

Research Division
National Endowment for the Arts

Diane C. Ellis

Data Use and Access Laboratories
1515 Wilson Boulevard
Arlington, Virginia 22209

Cooperative Agreement NEA CA 81-59

May 1984

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TRENDS IN THE ARTIST OCCUPATIONS, 1970-1980

I. THE ARTIST OCCUPATIONS

One measure of the number of artists in the nation can be found in data from the decennial U.S. census for a set of 11 arts-related occupational groups. In 1980, the census counted a total of 1,085,693 people in these artist occupations (see Table 1, below). This count is of persons 16 years of age and over in the experienced civilian labor force, which includes both employed and experienced unemployed artists. If the person had more than one job, the census counted only the one at which the person worked the most hours. Appendix A provides additional information on the sources of these data.

These 1,085,693 artists represented 1.04 percent of the total experienced civilian labor force in 1980, and 4.79 percent of all workers in the managerial and professional specialty occupations.

Table 1

Artists in the Experienced Civilian Labor Force: 1980

Designers	338,374
Painters/Sculptors/Craft Artists/ Printmakers	153,162
Musicians and Composers	140,556
Architects	107,693
Photographers	94,762
Actors and Directors	67,180
Artists, N.E.C. (not elsewhere classified)	49,653
Announcers	46,986
Authors	45,748
Art/Drama/Music Teachers (post-secondary)	28,385
Dancers	13,194
Total, Artist Occupations	1,085,693
Total, Managerial/Professional	22,653,658
Total, Experienced Civilian Labor Force	104,057,985

The different artist occupations are ranked by overall size in the list in Table 1. The largest group, the designers, accounts for nearly a third of all of the artists. This is a diverse group that covers about 100 specific job titles, including industrial, fashion and interior designers; style and color advisors; art directors; interior decorators; flower arrangers; graphic designers; scenery designers; and many others. Appendix B lists the specific job titles included by the census in each of the 11 arts-related occupational groups.

II. CHANGES IN THE TOTAL NUMBERS OF ARTISTS, 1970-1980

Between 1970 and 1980, the Bureau of the Census changed its procedures for the classification of occupations. A revised Standard Occupational Classification System (SOC) was adopted by federal government agencies in 1977. Further revisions were made in 1980. In general, the impact of these changes on data for artists was to improve their consistency and accuracy. However, the changes also mean that occupational figures for 1970 and 1980 are not always comparable (see Table 2).

Table 2

Numbers of Persons in Census Artist Occupations: 1970 and 1980

1970 ARTIST OCCUPATIONS	1970 COUNT	1980 COUNT	1980 ARTIST OCCUPATIONS
Actors	14,140	67,180	Actors and Directors
Radio/TV Announcers	22,296	46,986	Announcers
Architects	57,081	107,693	Architects
Art/Drama/Music Teachers (postsecondary)	30,654	28,385	Art/Drama/Music Teachers (postsecondary)
Authors	26,004	45,748	Authors
Dancers	6,924	13,194	Dancers
Designers	112,325	338,374	Designers
Musicians and Composers	96,537	140,556	Musicians and Composers
Painters and Sculptors	107,476	153,162	Painters/Sculptors/Craft Artists/Printmakers
Photographers	65,960	94,762	Photographers
Writers/Artists, NEC	64,091	49,653	Artists/Performers, NEC
Artists--Total (1970)	603,488	1,085,693	Artists--Total (1980)
Experienced Civilian Labor Force (1970)	79,801,605	104,057,985	Experienced Civilian Labor Force (1980)

Although the 11 artist occupations are generally similar in makeup for the two census years, the correspondence is not exact. The 1970 group for Actors was changed in 1980 to Actors and Directors. The title for the 1970 group of Painters and Sculptors was also changed in 1980, to reflect the fact that this group now includes craft artists and artist printmakers. These are not the only changes. For example, in 1970 there was a separate occupational group, not treated by either the Census Bureau or NEA as an artist field, for "Decorators and Window Dressers." In 1980, this distinction was eliminated by the Census Bureau, which reclassed all of these workers into the group of Designers. Other more detailed revisions in classification procedures were made, as well, and are noted below.

1. The Effect of Changes in the Way Artists Were Counted

The figures in Table 2 show that the census counted substantially more artists in 1980 than it did in 1970. This section considers the extent to which these increases were due to procedural and definitional changes, rather than to actual increases or decreases in the numbers of people that could have been classed in the artist occupations.

In general, the procedural and definitional changes adopted for the 1980 Census appear to have increased the accuracy of the arts classifications. In some cases, whole categories of workers have been added to the artist fields--for example, directors, program managers, producers, and narrators were added to the group of actors. Some of these persons had been classed in 1970 as other kinds of artists (often "Artists NEC", the catch-all group of artists, performers, and related workers "Not Elsewhere Classified"), while others had formerly been counted in non-arts occupations like "Office Managers NEC." There was some reassignment of specific job titles, both into and out of the artist occupations. For example, a small group of workers classed as designers in 1970 are now classed as patternmakers and no longer counted as artists.

To obtain a comprehensive view of the effect of all these refinements, the Bureau of the Census pulled a special sample of 120,000 1970 cases and reanalyzed the occupational responses, using the 1980 rules; the sample was then tabulated to compare this matched set of 1970 and 1980 occupational assignments. Table 3 on the following page shows the results of this tabulation for the arts occupations.

The sharpest increase due to definitional changes is in the "Actors" group, relabelled in 1980 as "Actors and Directors." When the sample of 1970 census cases was reclassified using the 1980 rules, adding in the directors and other production staff, the number of workers assigned to this category almost tripled. The equivalent percentage increase, based on the original number of actors in the sample, was nearly 194 percent.

"Designers" was another artist group that was significantly changed by these revisions in Census Bureau procedures. As noted above, persons who were "Decorators and Window Dressers," a separate non-artist occupational field in 1970, were classified as designers when the 1980 rules were used. There were also changes here in the treatment of particular job titles--for example, some cases previously classed as "Painters/Sculptors" or "Office Managers NEC" were reassigned to the designers, while other jobs were reclassified out of the designer group, like patternmakers, tool designers, and forms designers. Overall, the net number of persons classed as designers in the sample of 1970 cases increased by nearly 112 percent.

The effect of changes in the Census Bureau's methods on the other artist occupations was much less drastic. Although the group called "Painters and and Sculptors" in 1970 was relabeled in 1980 as "Painters, Sculptors, Craft Artists, and Artist Printmakers," stricter 1980 classification rules led to about a 20 percent reduction in the numbers of persons grouped in this arts occupational class in the special sample of 1970 cases. Some persons categorized as painters and sculptors in 1970 were reassigned in 1980 as designers (color consultants, art directors, art supervisors), or as "Artists NEC" (animators, card painters), or were assigned to non-arts fields

Table 3

Effects of Applying 1980 Census Occupational Classification Rules
(Source: Census Bureau special sample of 120,000 1970 cases)

1970 ARTIST OCCUPATIONS	ORIGINAL 1970 COUNT (SAMPLE)	ADDED/ DELETED W/1980 RULES	ADJUSTED 1970 COUNT (SAMPLE)	PERCENTAGE INCREASE OR DECREASE
Actors	16	+31	47	+193.75%
Radio/TV Announcers	37	+4	41	+10.81
Architects	97	-10	87	-10.30
Art/Drama/Music Teachers (postsecondary)	58	+5	63	+8.62
Authors	25	[none]	25	[none]
Dancers	8	[none]	8	[none]
Designers	145	+162	307	+111.72
Musicians and Composers	154	[none]	154	[none]
Painters and Sculptors	173	-37	136	-21.38
Photographers	90	-2	88	-2.22
Writers/Artists/ Entertainers, NEC	92	-19	73	-20.65
Artists--Total (1970)	895	+134	1,029	+14.97%
Exp. Civ. Labor Force	120,000	[none, net]	120,000	[none, net]

when the 1980 rules were used. Although the title for the occupational group of painters and sculptors was changed in 1980 to add "craft artists and artist printmakers," only the printmakers (along with a few other miscellaneous job titles) were actually added to the "Painters and Sculptors" group when the new rules were applied. The craft artists, including such workers as ceramic or glass artists, were already grouped in this class by the 1970 rules, while jobs such as engravers, book binders, and woodworkers continued to be classified in non-artist fields in 1980 under "Precision Production, Craft and Repair Occupations."

A similar shift took place for the catch-all category of "Artists NEC." In 1970, most of the 11 arts fields were included in a larger occupational cluster called "Writers, Artists, and Entertainers," along with athletes, editors and reporters, public relations workers, and technical writers. Thus those "Not Elsewhere Classified" in the cluster could be non-arts as well as arts persons. In practice, few athletes or public relations people were in the "NEC" category, but numerous writers and editors were counted there until the adoption of the 1980 methods, when the editors, reporters, and technical writers were more appropriately classified in other arts fields or in non-arts fields.

In architecture, smaller downward shifts resulted from the elimination of marine and naval architects, and certain civil engineers, from this occupational group when the 1980 coding system was applied.

Small increases in the sizes of the 1970 groups of announcers and college teachers of art, drama and music were produced when the 1980 rules were used. The added announcers included disc jockeys and radio artists that were formerly classified as "Writers, Artists, and Entertainers, NEC." The added teachers included some formerly classed as "Miscellaneous Teachers, College and University.'

"Photographers" lost a small number of cases when the 1980 rules led to the reclassification of certain technicians.

The tabulation of the Census Bureau's special sample showed that changes in the occupational classification procedures had no effects on the reported numbers of authors, dancers, or musicians and composers.

2. Estimating Rates of Growth

The total number of artists counted in 1980 represents an 80 percent increase over those counted in 1970. However, a substantial portion of this increase is due to the changes discussed above in the way the artists were classified. The 1970 data may be adjusted, multiplying the original census results (in Table 2, above) by the factors for percentage increases/decreases obtained from the Bureau of the Census' special sample (reported in

Table 3). This makes the 1970 data more comparable to classification rules used in 1980. The resulting estimate of overall growth for the artist occupations is about 51 percent for the decade. This is still impressive growth; the rate is considerably higher than the 30 percent growth rate during the same period for the total experienced civilian labor force. Table 4 summarizes these growth estimates for the 11 artist occupations.

Table 4

Unadjusted and Adjusted Estimates of Change,
Numbers of Workers in the Artist Occupations: 1970-1980

ARTIST OCCUPATIONS	UNADJUSTED 1970 DATA	PERCENTAGE ADJUSTMENT (TABLE 3):	ADJUSTED 1970 DATA	1980 DATA	PCT. INCREASE/DECREASE	
					UNADJUSTED	ADJUSTED
Actors/Directors	14,140	+193.75%	41,536	67,180	+375.10%	+61.73%
Announcers	22,296	+10.81	24,706	46,986	+110.73	+90.17
Architects	57,081	-10.30	51,196	107,693	+88.66	+110.35
Art/Drama/Music Teachers (postsec.)	30,654	+8.62	33,296	28,385	-7.40	-14.75
Authors	26,004	[none]	26,004	45,748	+75.92	+75.92
Dancers	6,924	[none]	6,924	13,194	+90.55	+90.55
Designers	112,325	+111.72	237,819	338,374	+201.24	+42.28
Musicians/Composers	96,537	[none]	96,537	140,556	+45.59	+45.59
Painters/Sculptors/ Crafts/Printmakers	107,476	-21.38	84,489	153,162	+42.50	+81.27
Photographers	65,960	-2.22	64,494	94,762	+43.66	+46.93
Artists, NEC	64,091	-20.65	50,854	49,653	-22.52	-2.36
Artists--Total	603,488	+18.95%*	717,858	1,085,693	+79.90%	+51.24%
Exp Civ Labor Force	79,801,605	[none]	[same]	104,057,985	+30.40	30.40

* Note that this number is nearly four percent larger than the comparable figure for the Census' special sample, given in Table 3. The reason is that the relative distribution of persons in the arts fields is necessarily less precise in the sample of 120,000 cases than in the full data set for 1970. For example, designers make up 16.2 percent of the 895 artists in the special sample, but they comprise 18.6 percent of the 603,448 artists in the complete data set. The effect of these variances is to cause even more workers to be reclassified into the arts fields than would have been expected.

Data for the group of Actors and Directors provide a detailed illustration of the adjustment and its effects on growth statistics. The census counted 14,140 persons in the "Actors" group in 1970. In 1980, as noted above, it substantially revised the category, adding in directors and other kinds of supporting theatrical and entertainment people. When the sample of 120,000 census cases from 1970 was reanalyzed using the new 1980 occupational codes, the size of the group of actors increased to nearly three times its original value. When a corresponding correction is applied to the original full-census count of 14,140 actors, an estimate is obtained of the number of persons who would have been classified as "Actors and Directors" in 1970 if the new procedures had been in effect: 41,536 persons. When the 1980 count for actors and directors is compared to the unadjusted 1970 count for actors, the growth rate is 375 percent; but when it is compared to the adjusted 1970 data, a more comparable estimate of growth is obtained: the lower figure of about 62 percent over the ten-year period. This is still substantially more growth--more than double--than was experienced by the total civilian labor force.

The results for the designers are like those for the actors; the unadjusted growth rate is over 200 percent, but this is heavily influenced by the procedural changes discussed above. When these are taken into account, the adjusted growth rate is much lower: 42 percent.

These adjustments have notable effects on other artist occupations. In the case of the architects, the results are the opposite of those for the actors: the effect of the changes in coding was to reduce the number of those counted as architects in 1970, so unadjusted growth rates understate expansion in this field. The adjusted estimate suggests that architecture is the arts field that had the greatest relative growth in the past decade.

Another group where the unadjusted figures appear to underestimate real growth is that of painters, sculptors, crafts artists, and printmakers. As discussed above, the revised 1980 occupational coding procedures produced a reduction in the number of workers classed in this category in the sample of 1970 census cases--so the adjustment increases the estimated growth considerably, to over 80 percent for the ten year period.

Another rapidly expanding group was the announcers. Here the effects of the revised coding procedures were less drastic.

Trends for college and university arts teachers are contrary to those for artists in general. Unadjusted comparisons of 1970 and 1980 data show this group of workers shrinking by seven percent--from about 31,000 workers to about 28,000. The new coding rules actually increased the number of persons classified as teachers of art, drama and music, by adding in some "miscellaneous" college teachers (public speaking and remedial reading), so the adjusted estimate shows an even larger decrease, 15 percent. Despite this decline in the number of postsecondary arts teachers, the number of graduated students in the arts fields increased over the same period;

data from the National Institute on Education on earned degrees conferred indicates that the postsecondary schools produced 37,690 graduates in the fine and applied arts in the year ending June 30, 1971, and 49,762 graduates in the same fields ten years later. Inquiries with the National Association of Schools of Art and Music suggest that a complicated set of interacting factors may be contributing to these outcomes, including general faculty cutbacks in many institutions, and a tendency for some arts faculty to be absorbed by schools of education.

For authors, dancers, and musicians/composers, there were no measurable changes introduced by the revised 1980 census procedures for occupational classifications, so the unadjusted and adjusted estimates are identical. The group of photographers was only slightly affected by the changes in the coding rules; here the adjustment has only minimal effects. There was considerable growth in all of these fields--about 46 percent for the photographers and musicians, 76 percent for authors, and 90 percent for dancers.

The residual category of "Artists, NEC" was also affected by the new coding rules, which removed over a fifth of the 1970 workers in this category, reclassifying them into other arts and non-arts fields. These changes account for almost all of the apparent shrinkage between 1970 and 1980 in the numbers of these miscellaneous artists.

In summary: when the adjusted 1970 data are compared with the 1980 census results, the overall number of workers in the arts occupations appears to have grown by about 51 percent for the 10-year period. Table 5 summarizes these estimates, with a rank-ordering of the occupations by their growth rates during the 1970's:

Table 5

Estimated Growth in Artist Occupations: 1970-1980

Architects	+110%
Dancers	+91
Announcers	+90
Painters/Sculptors/Craft Artists/Printmakers	+81
Authors	+76
Actors and Directors	+62
Photographers	+47
Musicians and Composers	+46
Designers	+42
Artists, NEC	-2
Art/Drama/Music Teachers (postsecondary)	-15
All Artist Occupations	+51%
Experienced Civilian Labor Force	+30

A comparison of Tables 1 and 5 yields some further observations:

- Designers make up the largest group and account for nearly a third of all artists; they are also one of the slowest-growing of the artist occupations.

- The smallest group, the dancers, accounts for just one percent of all artists; it is also one of the fastest-growing artist occupations.

The differences between unadjusted and adjusted estimates of growth are substantial for some arts occupations. In those fields where the occupational classification procedures were significantly changed between 1970 and 1980, comparisons based on unadjusted data can be misleading. The Census Bureau's special sample of cases with both 1970 and 1980 occupational codes, reported in Table 3, provides a way to adjust these data to estimate overall growth in the artist occupations, but no similar means are available to adjust the more detailed statistics on most other characteristics of artists, such as age and income. (See Appendix C for further details.)

Accordingly, in the remaining sections of this report, trends are illustrated with separate comparative data for each of the two census years, rather than with single measures of growth over the ten-year period, as above. When differences in definitions of particular occupations may have affected the comparisons, these are noted in the text.

III. TRENDS IN SEX, ETHNICITY, AND AGE COMPOSITION

1. Trends in Sex Composition

Table 6 on the following page rank-orders the 11 artist occupations by the percentage of females in each field in 1980, with comparative data for 1970. Overall, women increased their relative share in the arts fields, but the proportion of women in the general labor force also rose, so the arts fields are still less likely than many others to include women. The arts occupations were 38 percent female in 1980; the group of all managerial and professional specialty workers was 41 percent female; the overall experienced civilian labor force was 43 percent female. Some of the increases for women in the arts occupations can be attributed to the changes discussed in the previous section in the occupational classifications used by the Bureau of the Census.

The most predominantly female field, the dancers, increased its share of male workers during the decade. The same is true of some other predominantly female occupations, such as telephone operators and stenographers. At the other extreme, the architects, which were less than four percent female in 1970, were still the least likely of any of the arts professions to include women in 1980, even though the number of female architects more than doubled, to eight percent.

Women increased their share of the work in most other artist occupations, with two exceptions. The revision of Census occupational classifications resulted in a decline in the relative number of females in the actors and directors group; the newly added production and direction workers were predominantly male. (On the other hand, the same revisions in coding procedures increased the share of women in the designers group; see Appendix C.) The other exception is the occupational class of musicians and composers, which went from 34 percent female in 1970 to about 30 percent female in 1980.

Table 6

Percent of Women Artists, by Artist Occupations: 1970-80

ARTIST OCCUPATIONS	PERCENT FEMALE: 1970	1980
Dancers	81.6%	74.6%
Designers	24.1	49.9
Painters/Sculptors/Craft Artists/Printmakers	36.8	48.1
Art/Drama/Music Teachers (postsecondary)	34.8	48.1
Authors	30.5	44.5
Artists, NEC	26.4	40.8
Actors and Directors	41.2	34.4
Musicians and Composers	34.0	29.5
Photographers	14.3	23.5
Announcers	6.4	18.3
Architects	3.7	8.3
Artists--Total	26.4%	37.9%
Managerial/Professional	33.9	40.6
Experienced Civilian Labor Force	38.1	42.6

Note: see Appendix Table D-1 for the data on which these percentages are based.

The rise in the proportion of women on college arts faculties may be due as much to males leaving the field as to females entering it; unlike the other artist occupations, this group grew smaller, not larger, over the ten-year period. The group of college and university arts teachers, the designers, and the painters, sculptors, craft artists and printmakers had nearly a 50/50 division of the sexes in 1980.

Forthcoming reports in this series will deal with these data on the sex composition of the artist occupations in greater detail. The same is true of other characteristics of artists reported below.

2. Trends in Ethnic Composition

Table 7 provides breakdowns of the ethnic composition of each of the artist occupations. In 1970, 8.8 percent of the artists had minority ethnic backgrounds, compared to an estimated 14.9 percent of all those in

Table 7

Ethnic Distribution of Artists, by Occupations: 1970-1980

ARTIST	WHITE:		BLACK:		HISPANIC:		OTHER:	
OCCUPATIONS	1970	1980	1970	1980	1970	1980	1970	1980
Actors and Directors	92.8%	89.2%	2.1%	5.7%	2.8%	3.3%	2.1%	1.7%
Announcers	94.1	86.2	2.5	8.1	2.5	4.3	1.0	1.4
Architects	91.6	89.0	1.8	2.7	3.7	4.0	2.9	4.2
Art/Drama/Music Teachers (postsec)	96.8	91.3	1.6	5.1	1.0	1.7	0.6	1.9
Authors	96.7	93.8	2.0	2.6	1.2	2.1	0.0	1.5
Dancers	83.3	80.1	10.6	8.6	1.5	6.0	4.5	5.4
Designers	91.4	90.2	2.2	3.2	3.4	3.9	3.0	2.7
Musicians/Composers	89.6	87.1	6.5	6.5	3.4	4.4	0.5	2.0
Painters/Sculptors/ Crafts/Printmakers	92.0	90.2	2.7	3.1	3.2	3.7	2.2	3.0
Photographers	91.8	88.8	3.0	5.0	3.7	4.0	1.4	2.2
Artists, N.E.C.	86.5	87.9	3.6	5.0	6.9	4.5	3.0	2.6
Artists--Total:	91.2%	89.3%	3.2%	4.3%	3.5%	3.8%	2.0%	2.6%
Mgr/Professionals:	(n/a)	88.4	(n/a)	6.0	(n/a)	3.0	(n/a)	2.6
Exp Civ Labor Force:	85.1	82.0	9.4	10.0	3.7	5.7	1.6	2.2

Note: "n/a" = comparative data for 1970 not available. See Appendix Table D-2 for the numbers on which these percentages are based.

the experienced civilian labor force. By 1980, minority representation in the arts fields increased to 10.7 percent; over the same period, that in the overall labor force increased even more to 18.0 percent. The shortfall in minority participation in the arts fields is due to under-representation of Blacks and Hispanics; persons with "other" minority backgrounds were not under-represented. The "other" minority group includes Native Americans and Asian-Americans, such as Japanese, Chinese, Filipinos, Vietnamese and others.

In both 1970 and 1980, the dancers had the largest relative share of minority workers. This was the only arts occupation to have a relatively greater share of minorities than the overall experienced civilian labor force, and the "other" minority class--principally Asians--are a significant source of this high proportion of minorities. Conversely, the authors and the postsecondary teachers of art, drama and music had the smallest shares of minority workers.

Within the general trends, there are a few notable exceptions. The proportion of minority workers rose more in the occupations of announcers and art, drama and music teachers than in other artist occupations. It increased the least in the designer and painter/sculptor categories; in the miscellaneous class of "Artists NEC," the proportion of minority workers actually dropped. These statistics make no adjustment for any effects of changes in the Census Bureau's occupational classification rules, which might account for some of these shifts in the numbers.

3. Trends in Age Composition

Table 8 on the next page provides age data for the artist occupations in 1970 and 1980. Like the total experienced labor force, artists became somewhat younger over the ten-year period; median ages dropped from 37.0 years in 1970 to 33.9 years in 1980.

Some arts fields are distinctly youthful; dancers are the youngest, with roughly three-quarters under the age of 30. Announcers were also relatively youthful in 1970, and this was still more pronounced in 1980, with the under-30 group rising from 55 to 65 percent of the total. Another arts field that is distinctly youthful is that of the musicians and composers; in this case shifts in age composition between 1970 and 1980 were much less pronounced. Several other fields also shifted sharply upward in the share of persons under 30: the "Artists NEC," the photographers, and the architects. In 1970, the architects were the least likely of any arts field to have workers under 30 years old in 1970; in 1980, that distinction is held by the authors, 83 percent of whom are 30 years old or more. The authors also have more older workers--those aged 55 and over, who accounted for 23 percent of all authors in 1980.

Other artist occupations stayed relatively stable in age composition during the 1970's. Some display very similar age profiles across all groups and for both census years--the designers and the painters, sculptors, craft artists and printmakers are illustrations.

To summarize: the artist occupations became somewhat more likely to include women, minorities, and youthful workers (under 30 years old) during the 1970's. They did not reach the levels of female and minority participation that are characteristic of the experienced civilian labor force in general. The increase in participation by younger artists was produced primarily by shifts in the groups of Artists NEC, photographers, broadcast announcers, and architects.

Table 8

Median Ages of Artists and Proportions in Major Age Groups, by Occupations: 1970-1980

ARTIST OCCUPATIONS	MEDIAN AGES:		PERCENTAGE AGED: 16-29:		30-54:		55 OR MORE:	
	1970	1980	1970	1980	1970	1980	1970	1980
Actors and Directors	35.0	33.1	37.6%	37.3%	50.4%	53.4%	12.0%	9.2%
Announcers	28.9	26.7	55.4	64.8	39.9	30.4	4.7	4.8
Architects	40.6	36.4	19.4	27.7	64.8	58.6	15.7	13.7
Art/Drama/Music Tchr	38.8	37.5	27.3	26.3	58.7	59.2	14.0	14.5
Authors	41.5	40.2	20.0	16.9	62.4	60.1	17.6	23.0
Dancers	24.7	26.1	78.5	72.9	20.0	24.4	1.5	2.7
Designers	37.2	35.1	29.3	33.2	58.1	53.4	12.7	13.4
Musicians/Composers	31.8	30.5	46.6	48.4	38.1	39.1	15.2	12.5
Painters/Sculptors	38.0	34.1	31.4	35.6	54.5	50.7	14.1	13.7
Photographers	39.4	32.8	30.0	40.7	53.3	46.7	16.7	12.6
Artists--NEC	37.5	32.2	30.8	42.7	55.5	44.1	13.7	13.1
Artists--Total	37.0	33.9	33.0%	37.2%	53.0%	49.8%	14.0%	13.0%
Exp Civ Labor Force	39.8	35.0	31.0	37.7	50.9	48.5	18.2	13.8

NOTE: see Appendix Table D-3 for the numbers on which these percentages are based. In the case of 1980 data for the Experienced Civilian Labor Force, the division of the 25-34 year age group into those under and over 30 years old has been estimated by using five-year age summaries for the general population and applying labor force participation rate figures to these two cohorts. At this writing (May, 1984), the Bureau of the Census has not released 1980 U.S. summary data for the detailed characteristics of the labor force, although these reports are available for individual States.

IV: TRENDS IN OTHER BASIC CHARACTERISTICS OF ARTISTS

1. Trends in the Labor Reserve

In addition to persons in the experienced civilian labor force, the census also identifies the occupation of those in the labor reserve: those not in the labor force at the time of the census but who had worked at some time during the previous five years. This definition of the labor reserve changed from the 1970 census, when it included those who had worked during the previous ten years. In 1970, there were 126,716 persons in the labor reserve for the 11 artist occupations; along with the 603,488 artists in the civilian labor force, a total of 730,204 artists were identified in that year. As a proportion of the labor force--those either working or actively seeking work--the labor reserve for the art fields was about a fifth (21 percent) of the size of the group of active artists (Table 9).

Table 9

Labor Reserves as a Proportion
of the Experienced Civilian Labor Force:
Artist Occupations, 1970 and 1980

ARTIST OCCUPATIONS	RATIO, LR/ECLF: 1970	1980
Actors and Directors	0.66	0.67
Announcers	0.10	0.11
Architects	0.09	0.10
Art/Drama/Music Tchr	0.12	0.14
Authors	0.21	0.19
Dancers	0.69	0.34
Designers	0.16	0.20
Musicians/Composers	0.29	0.21
Painters/Sculptors	0.20	0.19
Photographers	0.18	0.18
Artists, N.E.C.	0.25	0.24
Artists--Total	0.21	0.18

Note: see Appendix Table D-4 for numbers on which these proportions are based.

In 1980, with the revised labor reserve definition, the artist labor reserve was 18 percent of the size of the experienced civilian artist labor force. In that year, it included 197,983 people, for a total count, with the addition of 1,085,693 workers counted in the labor force in 1980, of 1,283,676 artists in the nation.

Some artist occupations have much larger labor reserves, relative to their size, than others. The reserve for actors and directors is two-thirds the size of the active labor force in that field, and is consistent with high unemployment rates for workers in this field.* The dancers have the next largest labor reserve--34 percent. Architects and announcers had the smallest reserves, at 10 and 11 percent, respectively. The labor reserves of other artist occupations ranged from 14 to 24 percent.

2. Trends in the Proportion of Full-Time Workers

Comparisons of the extent of full-time work are affected by changes in census definitions and coding practices. In the earlier census, full-time was defined as 30 or more hours a week; in 1980, it was defined as 35 hours or more. In both censuses, the full-time workers were also employed at least 50 weeks a year.

Data for full-time workers is provided in Table 10 on the next page. In 1970, about 55 percent of all those in the 11 artist occupations worked full time. In 1980, this dropped slightly to 50 percent. This figure is slightly lower than it is among the total experienced civilian labor force, which had a 59% full-time work rate in 1980.

The overall figures mask sharp shifts in many of the individual fields. The actors, previously a group with very low full-time work rates, jumped to a 48 percent full-time rate with the creation of the revised occupational category of "Actors and Directors" that includes the directors and other production staff. This was the only artist occupation to rise significantly in the propensity of its members to work full time.

The architects are now the only predominantly full-time artist occupational group, with roughly three-quarters of their practitioners employed at least 35 hours a week, 50 or more weeks a year. Significant drops in the proportions of full-time workers were experienced by the groups of authors, artists NEC, designers, announcers, photographers, and painters, sculptors, craft artists, and printmakers.

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* See Research Division Report #16, Artist Employment and Unemployment: 1970-1980 (National Endowment for the Arts, Washington, D.C., 1982).

As in 1970, some artist occupations have very low proportions of full-time workers. Only about a fifth of the musicians/composers and dancers work full-time. Less than 30 percent of the postsecondary teachers of art, drama and music work full-time.

3. Trends in Median Years of Schooling and Median Earnings

Table 11 on the following page summarizes two more characteristics of the artists: their education and earnings. The education data have not changed greatly since 1970. The artists have had more schooling than most workers; typically, in 1980 they had at least three years of postsecondary training, up from two years in 1970. The median for the group of actors is now at the college graduate level (this may be due to the addition of the directors and other production workers), and the photographers, painters and sculptors, musicians and composers, and authors are also likely to have had more formal education. Other arts fields show relatively little change.

Table 10

Full Time Workers:
Artist Occupations, 1970 and 1980

ARTIST OCCUPATIONS	PERCENT FULLTIME: 1970	1980
Actors and Directors	16.6%	48.0%
Announcers	58.8	46.5
Architects	79.4	75.1
Art/Drama/Music Tchr	30.6	27.8
Authors	61.1	40.1
Dancers	20.0	21.5
Designers	72.3	58.8
Musicians/Composers	17.7	18.6
Painters/Sculpt/Etc	58.5	49.6
Photographers	69.4	57.2
Artists, N.E.C.	55.2	38.9
Artists--Total	54.6%	49.6%
Exp Civ Labor Force	59.2	58.7

Note: see Appendix Table D-5 for numbers on which these percentages are based.

Trends for earnings are more complex. Between 1970 and 1980, the median earnings of the overall experienced civilian labor force rose 87 percent, from $6,100 to $11,420. As a group, artists did much worse, increasing earnings by only about 24 percent over the decade. Among the 11 individual artist fields, however, there were notable differences.

By a considerable margin, the architects were the the best-paid workers in the artist occupations. They also experienced larger gains in earnings during the 1970's than did most others, of about 50 percent.

The group of actors and directors showed the sharpest relative gains, more than double the earnings levels for the group in 1970; again, changes in census definitions for the category are probably responsible for at least a portion of this rise. The actors and directors, the postsecondary teachers of art, drama and music, the designers, and the photographers all reported median earnings in the $10,000-$13,000 range for calendar year 1979 (the income year reported in the 1980 census).

Table 11

Median Years of Schooling and Earnings, by Artist Occupations: 1970-1980

ARTIST OCCUPATIONS	MEDIAN YEARS OF SCHOOLING:*		MEDIAN EARNINGS:*	
	1970	1980	1970	1980
Actors and Directors	14.2	16.2	$5,936	$12,564
Announcers	13.8	14.1	7,067	8,144
Architects	17.0	17.0	12,800	19,220
Art/Drama/Music Teachers (postsec)	17.0	17.0	9,140	11,787
Authors	16.0	17.0	8,875	6,956
Dancers	12.4	12.7	3,332	5,404
Designers	14.0	14.2	10,100	10,656
Musicians/Composers	13.1	14.3	2,958	5,561
Painters/Sculptors/ Crafts/Printmakers	13.8	15.0	6,996	8,576
Photographers	12.7	14.0	7,774	10,085
Artists, N.E.C.	13.9	13.3	7,735	7,218
Artists--Total:	14.1	15.0	$7,880	$9,803
Exp Civ Labor Force:	12.3	12.5	$6,100	$11,420

* 17 years of schooling is the maximal value coded by the Census and includes those with additional education. Earnings are for the previous calendar year. Medians are derived from separate tabulations, not included in this report, of detailed education and income groups.

Two other clusters of artist occupations had median earnings lower than the overall median of nearly $10,000 in calendar 1979. The painters/sculptors, announcers, artists NEC, and authors averaged between $6,900 and $8,600. The authors reported notably lower earnings in 1980 than in 1970; the only other group to do so was the miscellaneous category of "Artists NEC."

As in 1970, the dancers and musicians/composers reported the lowest median earnings--around $5,500--of any of the artist occupations, despite gains over the ten-year period of 62 and 88 percent, respectively.

In summary, some of the most notable trends are:

- The actors and directors show increases in the proportion of full-time workers, levels of education, and earnings, but this is due at least in part to the changes made by the census in classifying occupations. The relative size of the labor reserve remains very large and was not affected by the addition of directors, producers, stage managers, etc., to the group, or by changes between 1970 and 1980 in the definition of the labor reserve.

- Relative to other workers in both arts and non-arts fields, only the musicians and composers, dancers, and architects reported exceptional gains in earnings over the decade. However, the musicians and composers and the dancers continue to have the lowest median earnings of any of the artist occupations, despite these gains.

- About half of all artists work full-time. Architects are most likely to have full-time work, while musicians and composers and dancers are least likely to do so. These differences are relected in substantial variations in earnings.

- The earnings of authors dropped during the 1970's. Fewer worked full-time, a finding that also applies to artists NEC, designers, announcers, photographers, and painters, sculptors, craft artists, and printmakers.

This report is the first of a series. Subsequent volumes will include more detailed treatments of many topics noted above, including information on the geographic dispersion of artists throughout States and SMSA's (Standard Metropolitan Statistical Areas); analysis of earnings and other work characteristics of artists; and information on artist households.

Appendix A

DATA SOURCES

Data in this report are from the 1980 Census of Population, with comparative statistics from the 1970 Census of Population. Artists are defined by occupation, an item included only on the Census "long-form" questionnaire. This was administered to a sample of one of every six households (in rural areas, the sampling rate increased to as much as one-half of the households). When used in a household, the occupation question was asked for all persons 16 years of age or older who had worked in the previous five years, whether or not they were in the labor force at the time of the census. Responses were then coded into some 500 detailed occupational categories, based on the 1980 Standard Occupational Classification (SOC) system. As is discussed in Section II of the report, this coding structure differs significantly from that used for the 1970 census.

All data on artists in this report consists of sampled cases weighted to represent the total population. Depending on the detailed characteristics to be treated, various sample subsets of the censuses must be applied. The Census "EEO" data files, developed to support compliance with equal employment opportunity law, are compiled for the complete "long form" data set on over 15 million households. These are the most accurate available data for occupation, sex, race, and geographic classifications.

For census data on other characteristics of artists, the best sources are the several Public Use Microdata Samples (PUMS), which are smaller subsets within the census. Three PUMS data sets are available, a five percent (of all households) "A" sample, a one percent "B" sample, and a one percent "C" sample. Each of these differs in geographic coverage. PUMS data may also be combined, as in the PUMS "ABC" sample, which includes seven percent of the households.*

Table A-1 on the following page compares the estimates of the numbers of artists from each of these sources. Using the EEO figures as the benchmark, little precision is lost when using the smaller PUMS data sets. The results for the PUMS "A" sample alone average within one and a half percent

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* Census of Population and Housing, 1980: Public-Use Microdata Samples: Technical Documentation, prepared by the Data User Services Division, Bureau of the Census (Washington, D.C.: 1983). See also Equal Employment Opportunity Special File, (Bureau of the Census, Washington, D.C.: 1982). For a general background text on the 1980 census, see Charles P. Kaplan and Thomas L. Van Valey, Census '80: Continuing the Factfinder Tradition (Bureau of the Census, Washington, D.C.: 1980).

of the more accurate EEO figures. Use of the combined "ABC" PUMS data sets yields only about a tenth of a percent reduction in this range. Use of the one percent samples is somewhat less precise; figures in Table A-1 indicate that "C" results deviate from those of the EEO data set by about two and a half percent, on the average. In the analyses done for this report, differences of this magnitude have no significant effect on findings.

Table A-1

Comparison of Census EEO and PUMS Data Sets
for Estimates of Artist Occupations

ARTIST OCCUPATIONS	EEO DATA:	PUMS: A,B,C	PUMS: A,C	PUMS: A	PUMS: B*	PUMS: C
Actors and Directors	67180	67916	67917	67660		69200
Announcers	46986	45433	45433	45360		45800
Architects	107693	108484	108484	108540		108200
Art/Drama/Music Teachers (postsec)	28385	29133	29133	29140		29100
Authors	45748	46284	46283	45900		48200
Dancers	13194	13033	13033	13060		12900
Designers	338374	338084	338084	338620		335400
Musicians/Composers	140556	138517	138517	137420		144000
Painters/Sculptors Crafts/Printmakers	153162	151917	151917	151360		154700
Photographers	94762	95367	95367	95940		92500
Artists N.E.C.	49653	50300	50300	50820		47700
Artists--Total	1085693	1084468	1084468	1083820		1087700
Average Deviation from EEO Sample Data	N/App	.0131	.0131	.0145		.0243

* Note: no data at this writing for PUMS-B.

Appendix B

SPECIFIC JOB TITLES INCLUDED IN ARTIST OCCUPATION CODES, 1980 CENSUS

043 Architects

Architect—(882)
Architectural designer—(882)
Architectural superintendent
Building consultant—L,M,851-860
Land planner—(712)

Landscape architect—(021)
Location analyst—D,E,F,580-691
Location man—D,E,F,580-691
Real estate site analyst
School plant consultant

Site planner—D,E,F,580-691
Supervising architect—(882)

137 Art, drama, and music teachers

Band director—M
Choir director—M
Director of music—M
Dramatic coach—M
Music director—M

Supervisor
Music—M
Teacher
Art—M
Choral—M

Dancing—M
Dramatic art—M
Fine arts—M
Music—M
Organ—M

Photography—M
Piano—M
Public speaking—M
Remedial reading—M
Speech—M
Speech and drama—M
Stagecraft—M
Violin—M
Voice—M

183 Authors

Author—(892)
Continuity man—440
Continuity writer—440
Dramatist—(892)
Fiction writer

Free-lance writer—892
Gag writer
Game author—172
Ghost writer—(892)
Handbook writer—352,362
Humorist—(892)

Lexicographer—(172)
Librettist—(892)
Literary writer—Exc. C,172
Lyricist—(892)
Magazine writer—(892)

Manual writer—400-432
Novelist—(892)
Play writer—(892)
Playwright—(892)
Poet—(892)

Poetess—(892)
Professional writer
Program writer—440
Scenario writer—800
Scientific writer

Sreen writer—440,800
Short-story writer—(892)
Special writer—440
Speech writer
Story writer—(892)
Television writer—(440)
Verse writer—Greeting cards 172
Writer—Free lance 892

185 Designers

Apprentice
Furrier—(151)
Window trimmer
Art director
Art-glass designer

Bank-note designer—172
Body stylist—351
Ceramic designer
Ceramic-mold designer
Cloth designer—(732)

Clothes designer—(732)
Color adviser—800
Color consultant—D,E,F,580-691
Color expert—D,E,F,190,512,521,530,580-691
Commercial designer—(732)

Corsage maker—681
Costume designer—800
Creative designer
Custom furrier—PR 630
Decorating consultant—D,E,F,580-691

Decorator, n.s.—D,E,F,512,521,530,580-602,611-691,800
Decorator, n.s.—Window trimming service 742
Decorator, n.s.—Mfg. not listed above
Design maker—681

Designer—Any not listed above
Director of display—D,E,F,580-691
Display artist—D,E,F,580-691
Display coordinator—D,E,F,580-691
Display designer

Display director—D,E,F,580-691
Display man, free lance—742
Display man—C,D,E,F,172,390,391,500-691,742
Display man—Commercial art co. 742

Display trimmer—D,E,F,580-691
Displayer, merchandise
Draper—D,592,600,630,661,800
Dress designer
Embroidery designer
Fabric designer—351
Fashion adviser

Fashion consultant, exc. selling
Fashion coordinator
Fashion designer
Fashion director—D,E,630,631
Fixture designer

Flag decorator—(742)
Floral decorator—(681)
Floral designer—(681)
Florist—OWN 681
Florist designer—(681)

Florist's decorator—(681)
Flower arranger—(681)
Fur designer—(151)
Fur finisher, tailor
Fur remodeler—(771)

Fur stylist—(151)
Fur tailor—(151)
Furniture arranger—D,E,F,580-691
Furniture designer—(242)
Furrier—PR 630,771

Graphic designer
Hat designer—(151)
Industrial designer—(732)
Interior decorator, decorating or designing—D,E,F,580-691,732

Interior designer
Jewelry designer
Kitchen designer
Manager
Display—460-462

Display department—D,E,F,580-691
Millinery designer
Miniature-set builder—800
Miniature-set designer—800
Model dresser—D,E,F,582,592,630-662,672-691

Ornamental metalwork designer
Orthopedic designer—(372)
Package designer
Pottery-decoration designer—(261)
Rug designer—(141)

Salesperson
  Floral designer
Set decorator—440,800
Set designer
Shell-craft designer—391

Showcase trimmer—D,E,F,580-691
Sign designer
Silver designer—391
Spray maker—681
Stage-scenery designer—(800)

Stage-set designer—(800)
Stained-glass-window designer—(250)
Style advisor
Stylist—Exc. 772
Supervisor

  Fashion
Textile designer
Tile designer—(252)
Toy designer—(390)
Trimmer, n. s.—Window trimming service 742

Window decorator
Window-display man
Window draper
Window dresser
Window trimmer

186 Musicians and composers

Accompanist—(800)
Arranger, music—892
Band director—Exc. L,M
Band leader—(800)
Band master—(800)

Bell ringer
Bugler—(800)
Bull-fiddle player—(800)
Calliope player—(802)
Cantor—880

Cellist—(800)
Choir director—Exc. L,M
Choir leader—(880)
Choir singer—(880)
Choirmaster—(880)

Chorister—(880)
Chorus master—(800)
Church organist—880
Composer, music—892
Concert artist—(800)

Concert pianist—(800)
Concert singer—(800)
Copyist, music—172
Copyist, n.s.—161
Cornetist—(800)

Cue selector—440
Director of music—Exc. L,M
Drummer—800
Free-lance musician—800
Guitar player—(800)

Harpist—(800)
Instrumentalist—(800)
Maestro—(800)
Manager
  Music—440
Minister of music—Church 880
Music adapter—(892)
Music arranger—(892)
Music composer—(892)
Music copyist—C,172

Music director—Exc. L,M,860,861
Music writer—(892)
Musician—(800)
Opera singer—(800)
Orchestra conductor—(800)

Orchestra director—800
Orchestra leader—(800)
Orchestrator—(892)
Organist
Pianist

Piano player
Recording artist—800
Singer (vocalist)—800
Soloist—(800)
Song writer—(892)

Supervisor
  Music—Exc. L,M,860,861
Trombonist—(800)
Trumpeter—(800)
Violinist—(800)

Vocal artist—(800)
Vocalist—(800)

187 Actors and directors

Actor—(800)
Actress—(800)
Casting director—440,800
Continuity director—440
Director—440,800
Drama director—(800)

Dramatic coach—Exc. L,M
Dramatic director—(800)
Dramatic reader—(800)
Elocutionist—(800)
Extra—800

Extra girl—800
Extra man—800
Impresario—800
Manager
  Program—440

Minstrel—(800)
Monologist—(800)
Motion-picture actor—(800)
Motion-picture narrator—(800)
Moving-picture producer—800

Narrator
Pageants director—(800)
Producer—440,800
Producer-director—440
Production director—440,800

Production superintendent—440
Program arranger—440
Program director—440
Program man—440
Radio producer—440

Reader—440,800
Soubrette—(800)
Story teller—(800)
Supervisor
  Production, n. s.—440
  Program—440
Technical director—800
Television actor—(440)
Theatrical performer—(800)
Theatrical trouper—(800)

Vaudeville actor—(800)

188 Painters, sculptors, craft-artists, and artist print-makers

Art restorer—(892)
Art-statue maker
Artist—(892)
Cartoonist—(892)
Catalogue illustrator

Ceramic artist
China painter
Color artist—(892)
Commercial artist—(742)
Concrete sculptor

Crayon painter—(892)
Editorial cartoonist
Etcher, n. s.—892
Fashion artist
Fashion illustrator

Free-lance artist—892
Free-lance commercial artist—742
Fresco artist
Glass artist—(250)
Graphic artist

Histological illustrator
Ice sculptor
Illustrator—(892)
Landscape painter—(892)
Layout and paste-up—172
Layout artist—D,622,721,892
Layout man, n. s.—721
Medical artist

Medical illustrator
Memorial designer
Model-set artist—800
Mural painter—(892)
Newspaper illustrator—(C)

Oil painter—(892)
Painter, landscape
Painter, neckties
Painter, statuary
Paintings restorer—(892)

Pattern illustrator
Picture painter—(892)
Portrait painter—(892)
Printmaker
Reproduction artist

Scene painter
Scenic artist
Scientific artist
Scientific illustrator
Sculptor—(892)

Sports cartoonist
Stained-glass artist—(250)
Stained-glass painter—(250)
Statue maker—892
Visualizer

189 Photographers

Aerial photographer—(742)
Biological photographer
Camera girl
Cameraman—Exc. 440
Cinematographer—800 exc. theater

Color photographer—791
Commercial photographer—(742)
Marine photographer
Medical photographer—(840)
Motion-picture cameraman—(800)

Motion-picture photographer—(800)
Movie-shot cameraman
News photographer—(C)
News-reel cameraman
Operator

With class of worker exc. Own—Photograph studio 791
Owner—Photograph studio 791
Photo-finish man—802
Photograph maker

Photographer, n. s.—(791)
Photojournalist
Scientific photographer
Street photographer—791
Television cameraman—440

Video camera man—440

193 Dancers

Acrobatic dancer—(800)
Ballet dancer—(800)
Choreographer
Chorus boy—(800)
Chorus girl—(800)

Chorus man—(800)
Dance director—(802)
Dancer—(800)
Dancing master—800,802
Discotheque dancer
Eccentric dancer—(800)
Go-go girl—(802)
Line boy—800

Line girl—800
Precision dancer—(802)
Professional dancer—(800)
Soft-shoe dancer—(800)
Song-and-dance man—(800)

Square-dance caller—(802)
Strip teaser
Stripper, n. s.—800
Tap dancer—(800)

194 Artists, performers, and related workers, n.e.c.

Acrobat—(802)
Advertising-layout man—Mfg. exc. C,172
Aerialist—(802)
Air-brush artist
Amusement park entertainer

Animal trainer
Animator—800
Aquatic performer
Architectural modeler—(882)
Art appraiser

Art worker—(892)
Astrologer—(802)
Autographer—Sheet music 172
Bareback rider—(802)
Baton twirler—(800)

Ben-day artist—C,172
Card painter—172
Censor
Circus performer—802
Circus rider—802

Clairvoyant—802
Clown—(802)
Colorer, n. s.—172,892
Colorist, n. s.—791,892
Comedian—(800)

Comic—(800)
Continuity clerk—800
Contortionist—(802)
Cowboy—802
Craniologist

Crossword-puzzle maker—172
Decorator, mannequin—391
Dog handler—(802)
Dog trainer—(802)
Elephant tamer—Circus 802

Engrosser
Entertainer—(800)
Equestrian—(802)
Equestrienne—(802)
Fortune teller—(802)

Freak—(802)
Furniture reproducer
Graphologist—(802)
Horse trainer—802
Horseman—802

Hypnotist—(800)
Impersonator—(800)
Inker and opaquer
Juggler—(800)
Lecturer—(892)

Lion trainer
Magician—(800)

Manager
Stage—(800)
Manugrapher
Marionette man—(800)
Medium—(802)

Mental telepathist—(802)
Mesmerist—(800)
Metaphysician
Metaphysicist
Mind reader—(802)

Model maker, n. s.—261,882,891,892
Modeler—262,891,892
Music autographer—172
Music grapher
Numerologist—(802)

Orator—(892)
Organ grinder—(802)
Outrider—Race track 802

Painter, animated cartoons
Palmist—(802)

Penman—802
Performer—(802)
Phrenologist—(802)
Picture copyist—(892)
Prestidigitator—(800)

Professional caster—Sport fishing 802
Professional entertainer—(800)
Psychic reader—(802)
Puppet master—(800)
Puppeteer—(800)

Ring conductor
Ringmaster—802
Rodeo performer
Rodeo rider—802
Rope walker—(802)

Script girl—800
Seeing-eye-dog trainer
Show-dog trainer—(802)
Show girl—(800)
Show-horse driver

Showman—(800)
Snake charmer—(802)
Spiritualist—(802)
Sports announcer—Exc. 440
Stunt man—(800)

Stunt performer
Supervisor
Art—892
Tattoo artist—791
Tattooer—791

Teacher
Seeing-eye dog
Trapeze performer—(802)
Trick rodeo rider—802
Tumbler—802

Variety man—800
Variety performer—(800)
Ventriloquist—(800)
Wire walker—(802)

198 Announcers

Announcer—440
Broadcaster—440
Commercial announcer—440
Disc jockey—440
Master of ceremonies—(800)

Newscaster—440
Radio announcer—(440)
Radio artist—(440)
Radio performer—(440)
Radio sportscaster—440

Sports announcer—440
Sportscaster—440
Television announcer—(440)

Appendix C

A NOTE ON THE USE OF GROWTH ESTIMATES

Changes in Census occupational classifications, discussed in Section II, complicate the attempt to use comparative data on artist occupations in 1970 and 1980 to measure changes at more detailed levels, like growth in the number of minority artists or increases in artists' earnings.

In this report, data from the Bureau of the Census is used to develop adjusted estimates of the size of 1970 artist occupational groups if 1980 classification rules had been in effect. Similar adjusted 1970 estimates may also be derived for males and females. However, the same method cannot be used to develop other similar 1970-to-1980 statistics, because no similar set of data is available to inform the adjustments. The figures for the special sample of 1970 census cases (Table 3) cannot be extrapolated to apply to smaller subsets of the data, like designers under the age of 30 or Hispanic painters, for this is equivalent to the assumption that the reclassifications had no effect on age, race, or other detailed divisions of the data--and it is easy to show that this is not the case.

For example, a separate group of "Decorators and Window Dressers" was defined in 1970 but was eliminated in 1980, with those workers being grouped with the designers. The 1970 data for the decorators and window dressers shows that there were 74,000 of these workers, and that 58 percent were female. Thus the use of the 1980 occupational classification procedures would have added at least 43,000 women to the designers group. Extrapolating the corrections used for the main growth estimates reported in the text will fail to meet this test. There were 112,325 persons classed as "designers" in the original, unadjusted 1970 data, and 24 percent--27,082 persons--were women. The adjustment used in Section II allows for the fact that had the designers been counted by 1980 rules, their numbers would have risen by a factor of 112 percent (see Table 3). If this weight is applied equally to both the men and the women in the 1970 data, we get a new total of 237,819 designers in 1970, of which 57,339 would be women. But this is not enough women: the detailed 1970 data available for decorators and window dressers show that at least 43,000 women should have been added just to take account of this one subset of the field, while the adjustment has only increased their numbers by 30,357 (57,339 less 27,082).

The extent of these problems varies from field to field, depending on the specific nature of each set of modifications in the Census rules. Where occupational classification rules remained consistent across the two censuses, as with authors, dancers, and musicians/composers, then 1970-to-1980 comparisons may be applied to any subset of the data.

Appendix D

SUPPLEMENTARY TABULATIONS

Table D-1

SEX DISTRIBUTION OF ARTISTS, 1970 AND 1980, BY OCCUPATION

ARTIST OCCUPATIONS	1970: TOTAL:	MALES:	FEMALES:	1980: TOTAL:	MALES:	FEMALES:
Actors and Directors	14140	8213	5927	67180	44049	23131
Announcers	22296	20873	1423	46986	38392	8594
Architects	57081	54948	2133	107693	98743	8950
Art/Drama/Music Tchr	30654	19992	10662	28385	14718	13667
Authors	26004	18069	7935	45748	25409	20339
Dancers	6924	1271	5653	13194	3350	9844
Designers	112325	85243	27082	338374	169604	168770
Musicians/Composers	96537	63677	32860	140556	99065	41491
Painters/Sculptors	107476	67917	39559	153162	79445	73717
Photographers	65960	56526	9434	94762	72496	22266
Artists, N.E.C.	64091	47137	16954	49653	29356	20297
Artists--Total	603488	443866	159622	1085693	674627	411066

Sources: 1970 data from Research Division Report #12, Artists Compared by Age, Sex, and Earnings in 1970 and 1976 (National Endowment for the Arts, Washington, D.C., 1980), Table 12, "Artists' occupations by sex, 1970." 1980 data from new tabulations of the Census of Population, 1980: Equal Employment Opportunity Special File.

Table D-2

ETHNIC DISTRIBUTION OF ARTISTS, 1970 AND 1980, BY OCCUPATION

ARTIST OCCUPATIONS	1970: TOTAL	WHITE	BLACK	HISPANIC	OTHERS	1980: TOTAL	WHITE	BLACK	HISPANIC	OTHERS
Actors and Directors	14000	13000	300	400	300	67180	59934	3840	2243	1163
Announcers	20300	19100	500	500	200	46986	40479	3805	2019	683
Architects	54500	49900	1000	2000	1600	107693	95899	2946	4353	4495
Art/Drama/Music Tchr	31200	30200	500	300	200	28385	25906	1446	480	553
Authors	24400	23600	500	300	0	45748	42903	1208	947	690
Dancers	6600	5500	700	100	300	13194	10565	1134	787	708
Designers	117700	107600	2600	4000	3500	338374	305261	10762	13218	9133
Musicians/Composers	95700	85700	6200	3300	500	140556	122434	9099	6192	2831
Painters/Sculptors	97100	89300	2600	3100	2100	153162	138168	4790	5625	4579
Photographers	69500	63800	2100	2600	1000	94762	84189	4784	3750	2039
Artists, N.E.C.	66700	57700	2400	4600	2000	49653	43658	2500	2226	1269
Artists--Total	597700	545400	19400	21200	11700	1085693	969396	46314	41840	28143

Sources: 1970 data from special tabulations of the Census of Population, 1970: Public Use Sample. 1980 data from new tabulations of the Census of Population, 1980: Equal Employment Opportunity Special File. U.S. Census data for 1970 is not usually grouped into the combined racial and ethnic categories reported here, in which Hispanic background overrides race, removing people from both white and other minority classes. The ethnicity data in this report is based on new tabulations of the original 1970 census records, which were needed to generate ethnic groupings comparable to the combined measure adopted for 1980.

Table D-3

AGE DISTRIBUTION OF ARTISTS, 1970 AND 1980, BY ARTIST OCCUPATIONS

ARTIST OCCUPATIONS	TOTAL (5%SAMPLE)	1970: 16-29	30-54	55+	TOTAL (PUMS ABC)	1980: 16-29	30-54	55+
Actors and Directors	14140	5317	7123	1700	67916	25366	36300	6250
Announcers	22296	12343	8906	1047	45433	29433	13800	2200
Architects	57081	11093	37003	8985	108484	30100	63550	14834
Art/Drama/Music Tchr	30654	8360	18006	4288	29133	7667	17233	4233
Authors	26004	5195	16234	4575	46284	7834	27800	10650
Dancers	6924	5432	1388	104	13033	9500	3183	350
Designers	112325	32867	65234	14224	338084	112367	180517	45200
Musicians/Composers	96537	45019	36814	14704	138517	67033	54217	17267
Painters/Sculptors	107476	33798	58567	15111	151917	54017	77017	20883
Photographers	65960	19788	35166	11006	95367	38817	44533	12017
Artists--NEC	64091	19768	35557	8766	50300	21500	22200	6600
Artists--Total	603488	198980	319998	84510	1084468	403634	540350	140484

Sources: 1970 data from the Census of Population, 1970: Subject Reports, Occupational Characteristics (Final Report PC(2)-7A: Bureau of the Census, Washington, D.C., 1973), pp. 28-44. 1980 data from new tabulations of the Census of Population, 1980: Public Use Microdata ABC Sample. Medians presented in Table 8 of this report are derived from additional tabulations, not reproduced here, using five-year age groups.

Table D-4

NUMBERS OF ARTISTS IN THE EXPERIENCED CIVILIAN LABOR FORCE AND LABOR RESERVE, 1970 AND 1980, BY ARTIST OCCUPATIONS

ARTIST OCCUPATIONS	1970 ECLF	1970 LR	1970 BOTH	1980 ECLF	1980 LR	1980 BOTH
Actors and Directors	14140	9290	23430	67180	11917	79097
Announcers	22296	2278	24574	46986	5133	52119
Architects	57081	5136	62217	107693	10417	118110
Art/Drama/Music Tchr	30654	3766	34420	28385	3833	32218
Authors	26004	5446	31450	45748	8783	54531
Dancers	6924	4765	11689	13194	4433	17627
Designers	112325	18314	130639	338374	66050	404424
Musicians/Composers	96537	27914	124451	140556	29667	170223
Painters/Sculptors	107476	21539	129015	153162	28500	181662
Photographers	65960	12126	78086	94762	17167	111929
Artists, N.E.C.	64091	16142	80233	49653	12083	61736
Artists--Total	603488	126716	730204	1085693	197983	1283676

Sources: 1970 data from Research Report #7, Minorities and Women in the Arts: 1970 (National Endowment for the Arts, Washington, D.C., 1978), Appendix Table E. 1980 data from new tabulations of the Census of Population, 1980: Public Use Microdata ABC Sample.

Table D-5

NUMBERS OF FULL TIME AND PART TIME ARTISTS, 1970 AND 1980, BY ARTIST OCCUPATIONS

ARTIST OCCUPATIONS	1970: Total:	1970: Full Time:	1970: Part Time:	1980: Total:	1980: Full Time:	1980: Part Time:
Actors and Directors	14140	2346	11794	67180	32100	35080
Announcers	22296	13105	9191	46986	21840	25146
Architects	57081	45299	11782	107693	80860	26833
Art/Drama/Music Tchr	30654	9394	21260	28385	7880	20505
Authors	26004	15876	10128	45748	18360	27388
Dancers	6924	1387	5537	13194	2840	10354
Designers	112325	81239	31086	338374	198880	139494
Musicians/Composers	96537	17077	79460	140556	26100	114456
Painters/Sculptors	107476	62904	44572	153162	75960	77202
Photographers	65960	45773	20187	94762	54160	40602
Artists, N.E.C.	64091	35370	28721	49653	19300	30353
Artists--Total	603488	329770	273718	1085693	538280	547413

Sources: 1970 data from the Census of Population, 1970: Subject Reports, Occupational Characteristics (Final Report PC(2)-7A: Bureau of the Census, Washington, D.C., 1973), pp. 248-260. 1980 data from new tabulations of the Census of Population, 1980: Public Use Microdata A Sample. Definitions of "full-time" differ between 1970 and 1980: in 1970, "full-time" means 30 or more hours a week, 50 or more weeks a year; in 1980, it means 35 or more hours a week, 50 or more weeks a year.

FORMATION OF DUALABS

In the early 1950's, computers first began to be used for processing many types of technical data. These data reflected the nation's expanding activities in research and planning. By the early 1960's, statistical data in machine-readable form were introduced for use by the public. Unlike books, films, phonograph records or other materials which can be readily used, data files require special services for interpretation. The services needed include forms of media storage, machines that read the media, systems of instruction for the machines, and systems defining data file contents.

Ideas that were later to be the basis for the development of DUALabs first emerged in the 1960's at the U.S. Bureau of the Census. As part of a design to assist census data users, a group of Census Bureau employees proposed an interrelated set of activities to assist users of census summary data files. These activities included file documentation in machine-readable form, software to read it, and software to interpret the data. The government declined to pursue these activities because they are essentially non-governmental functions. As a result, a small group left the Census Bureau to test out their ideas for serving statistical data users. This group was the beginning of Data Use and Access Laboratories (DUALabs).

The basic plan for the formation of DUALabs followed these premises: (1) statistical data collected at public expense should be publicly available; (2) public statistical data belong in the storehouse of a nation's cultural heritage; and (3) public data are critical sources of information for planning national goals and measuring the achievement of these goals. After more than a decade of nonprofit service, DUALabs continues to focus on its original objectives of developing and improving services to make public statistical data readily accessible and widely used. We hope to help achieve a maximum return on society's investment in data gathering by developing procedures, tools, systems and organizational arrangements to facilitate all aspects of public statistical data use.